

28 JUNI 2004

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

Zacco Denmark A/S

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

To:

ZACCO DENMARK A/S
Hans Bekkevolds Allé 7
DK-2900 Hellerup
DANEMARKDate of mailing
(day/month/year)

28.06.2004

Applicant's or agent's file reference
P200200084 WO

IMPORTANT NOTIFICATION

International application No.
PCT/EP 03/03356International filing date (day/month/year)
31.03.2003Priority date (day/month/year)
30.04.2002

Applicant

SONY ERICSSON MOBILE COMMUNICATIONS AB et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

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preliminary examining authority:European Patent Office - P.B. 5818 Patentlaan 2
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PATENT COOPERATION TREATY


PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

REC'D 28 JUN 2004

WIPO

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Applicant's or agent's file reference P200200084 WO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/03356	International filing date (day/month/year) 31.03.2003	Priority date (day/month/year) 30.04.2002	
International Patent Classification (IPC) or both national classification and IPC H05K9/00			
Applicant SONY ERICSSON MOBILE COMMUNICATIONS AB et al.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 2 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 22.10.2003		Date of completion of this report 28.06.2004	
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Castagné, O Telephone No. +31 70 340-2726	



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP 03/03356

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-9 as originally filed

Claims, Numbers

1-12 filed with telefax on 15.06.2004

Drawings, Sheets

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/03356**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).
(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2-5,7-12
	No: Claims	1,6
Inventive step (IS)	Yes: Claims	
	No: Claims	1-12
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/03356

- 1 Reference is made to the following document:

D2: WO 01/56347 (JOUAN; WAVECOM; KORDJANI) 02.08.2001

- 2 The document D2 (see page 8, lines 12-23; page 1, lines 14 to 20; page 9, line 21 to page 10, line 12) discloses a radio communication module.

This module is shielded and therefore is enclosed in a metall shell. A frame ("structure d'interposition") is provided on the underside of the module, providing the shell with a free rim.

From this document it is known to provide solder paste (page 9, last line, page 10, first line) on the rim of the shield before the reflow soldering technique.

Hence all the steps of claim 1 are disclosed in D1 the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

- 3 The same applies, mutatis mutandis, to the apparatus claim 6 which is therefore also not new Article 33(2) PCT.
- 4 Dependent claims 2-5 and 7-12 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty or inventive step, see document D2 and the corresponding passages cited in the search report.

Claims (amended)

(51)

- 5 1. A method for providing a PCB (printed circuit board) with a shield can (1;11;21;31) comprising a metal shell with a free rim (5;15;25;35), said method comprising the steps of:
- providing the PCB (12) with solder (16),
 - placing the shield can (1;11;21;31) on the PCB (12) with the rim (5;15;25;35) towards the PCB (12),
 - heating the PCB (12) and the shield can (1;11;21;31) to a temperature
 - 10 above a melting temperature of the solder (16),
 - cooling the PCB (12) and the shield can (1;11;21;31),
- 15 **characterised in** that the rim (5;15;25;35) of the shield can (1;11;21;31) is provided with an extra amount of solder (8;18) before the shield can (1;11;21;31) is placed on the PCB (12).
2. A method according to claim 1, **characterised in** that the rim (5;15;25;35) of the shield can (1) is provided with the extra amount of solder (8) by dipping it partly into a bath of molten solder (8).
- 20 3. A method according to claim 1, **characterised in** that recesses (19;29) are provided at the rim (15;25) of the shield can (11;21) before the extra amount of solder (18) is applied thereto; and that the extra amount of solder (18) is applied to the recesses.
- 25 4. A method according to claim 1 or 3, **characterised in** that the rim (5;15;25) of the shield can (1;11;21) is provided with the extra amount of solder (8;18) by a screen-printing process.
- 30 5. A method according to claim 1 or 2, **characterised in** that indentations (39) are provided at the rim of the shield can (31) before the extra amount of solder is applied thereto; and that the extra amount of solder is applied to the indentations (39).
- 35 6. A shield can (1;11;21;31) for electro-magnetically shielding an electronic component mounted on a printed circuit board (PCB) provided with solder, said shield can (1;11;21;31) comprising a metal shell with a free rim

(5;15;25;35), **characterised in** that the rim (5;15;25;35) of the shield can (1;11;21;31) is provided with an extra amount of solder (8;18).

5 7. A shield can according to claim 6, **characterised in** that the rim (15;25) of the shield can (11;21) is provided with a plurality of recesses (19;29), each recess (19;29) being provided with an extra amount of solder (18).

10 8. A shield can according to claim 7, **characterised in** that each recess (19;29) is V-shaped.

9. A shield can according to claim 6, **characterised in** that the rim (35) of the shield can (31) is provided with a plurality of indentations (39), each indentation (39) being provided with an extra amount of solder.

15 10. A shield can according to claim 9, **characterised in** that each indentation (39) is V-shaped.

20 11. A shield can according to any one of claims 6-10, **characterised in** that the shield can (1;11;21;31) is box-shaped with a flat upper shell part (3;13) and four downwardly extending side pieces (4;14;24;34) with the free rim (5;15;25;35).

25 12. A shield can according to claim 11, **characterised in** that the side pieces (14;24;34) are interconnected at adjoining corners; and that each corner is provided with a leg (20) that protrudes downwards beyond the free rim (15;25;35).

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